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A TYPOLOGICAL PERSPECTIVE: THE IMPACT OF CULTURAL PARADIGMATIC SHIFTS ON THE EVOLUTION OF COURTYARD HOUSES IN CAIRO

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1. All photographs were taken by the author. All drawings were re-developed based on the work of Ibrahim, Abdul-Baki and Lamei, Saleh (Criteria and Standards of Urban Planning and Architectural Design in Islamic Cairo). House floor plans were verified by surveys and site visits.

INTRODUCTION: THE CAIRENE COURTYARD HOUSE (1)

As both an urban and rural prototypical phenomenon the courtyard house type has emerged. It differs dramatically from other types of houses. In it, the outdoor space is enclosed within the interior volume and ultimately becomes the heart of its morphology and spatial organization. As a house type it was usually associated with the wealthy, and involved general physical features that pertain to its material and construction, spatial organization and interior decoration, and its overall visual appearance and environmental significance.

Originally, the courtyard was called *Qa'a* that was surrounded by four unequal *iwans* with a fountain in the center. The form and typology of the courtyard has changed dramatically over the years. In the Fatimid era, the principle structure of the house was also the *Qa'a*. Literature indicates that it was a central area, not roofed, but protected in some cases by tents. This central area was bordered by two *iwans*, which were closed by folding doors. The only surviving example of this spatial device is found in *Qa'a-Al-Dardiri* in Cairo (Michelle, 1995). Similarly, the primary space and the central area of the *Mamluk* house was the *Qa'a*, as it was the focus of the private life and domestic activities. It was composed of three connected spaces; a central part named *Durqa'a*, an uncarpeted high roofed circulation space that provided light and enhanced ventilation, and two closed, raised and carpeted recesses named *iwans*. The roof of the *Durqa'a* was higher than that of the *iwans* in order to allow for a clear storey for ventilation and lighting purposes.

In contrast with many Mediterranean and old Arab cities, the Cairene courtyard house can not be considered the primary pattern of the urban fabric, as the analysis of the spatial and social structure of old Cairo reveals that it is related to the distribution of different social classes within the city (Wright, 1991). However, the courtyard can be regarded as an

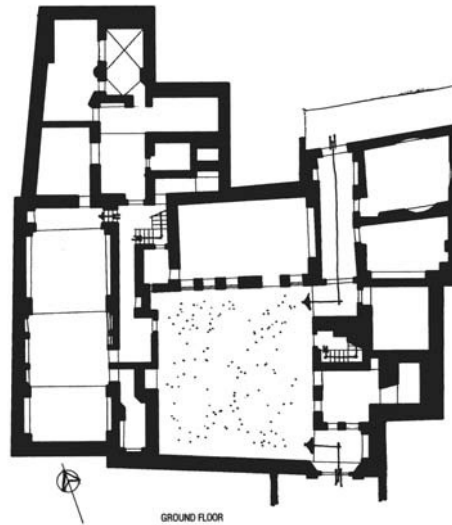
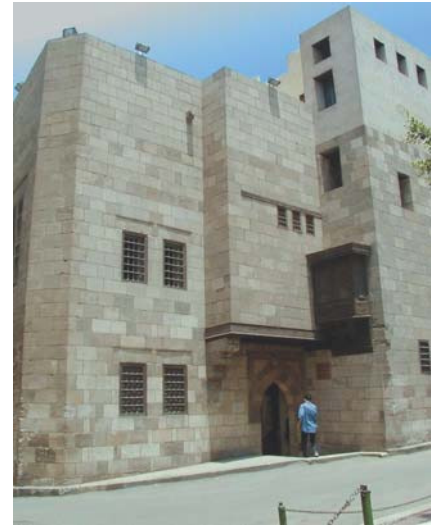
Figure 1. Zeinab Khatoun House, example of a house with central courtyard – *Mamluk* period.

Figure 2. Zeinab Khatoun House, the impact of courtyard centrality on the morphology of the exterior and the closeness involved.

Figure 3. Gamal Eddin Al Zahabi, example of a house with central courtyard – *Ottoman* period.

Figure 4. Al Harrawi House, example of a house with front courtyard – *Mamluk* period.

Figure 5. Al Harrawi House, the impact of courtyard position on the openness to outside environment.



organizational unit exemplifying three traditional house types in Cairo. These are; A) houses with central courtyards, B) houses with side courtyards, and C) houses without courtyards.

Traditional houses with central courtyards were typically associated with the wealthy community of the Egyptian society (**Figure 1, 2**). This prototype evolved from the original traditional Islamic house to the 19th century model, and was later influenced by the Turkish and European styles (**Figure 3**). This type continued to exist until the transformation of the late 19th / early 20th century, when it became obsolete and was replaced by the new Western prototypes. Houses with side or front courtyards may be observed to be the same as those of central courtyard (**Figure 4, 5**). However, they differ in terms of the pattern of use of the courtyard as a living space. Adding up, the third type involved a court but has practically served as light wells or ventilation shafts for the service spaces of the house only, while the major spaces were usually opened to streets.

The courtyard house has been the issue of debates where numerous conferences, symposia, and research reports have addressed the courtyard

house where many eastern and western scholars have debated its different qualities. Contemporary literature on traditional houses has heavily emphasized the stylistic debates about their cultural authenticity (Oliver, 1990; Rapoport, 1969; Serageldin, 1990). However, little emphasis has been placed on the functional and traditional elements and their socio cultural and socio behavioral relevancy. In essence, the concepts of house and home, according to Lawrence (1997), transcend regional boundaries, cultural norms, linguistic connotations, and religious doctrines. They are fundamental human concepts that are grounded on sets of relationships that order and define the status of individuals in relation to society.

Elements of Courtyard Houses in Cairo	Operational Definitions
Courtyard	A square or rectangular unroofed open space, often located in the heart of the house.
Entrance (<i>Dihliz</i>)	A bent walkway into the inside of the house, often open unto the courtyard.
<i>Qa'a</i>	A reception hall in Cairene houses.
<i>Takhtabush</i>	A covered outdoor sitting area- at the ground floor level located off the courtyard and in the nearest area to the entrance.
<i>Maka'ad</i>	A square or rectangular shaped covered loggia, opened with its entire façade onto the court, essentially oriented to the north in grasp of the soft breeze.

Table 1. Operational definitions of elements courtyard houses. Based on Dictionary of Islamic Architecture: www.archnet.org.

Methodological research on traditional houses has been discussed heavily in the literature. It has drifted into six orientations or approaches. These are:

1. the aesthetic/formal interpretation, 2. the typological approach, 3. evolutionary theories, 4. physical explanations such as building technology and climatic aspects, 5. social explanations such as defense theory and household structure, and, 6. socio cultural factors and religious practices. Historical research of interpretation on traditional houses accentuates that their multifaceted nature needs to be examined using integrative research methods. In order to incorporate some of these approaches into an integrative methodology, this paper bases its argument on examining the evolution of Cairene courtyard houses by considering the formal changes in their key spaces and by relating the evolutionary process to cultural change that Egypt and its capital have witnessed.

In an attempt to envision the context in which the evolutionary process occurs, a descriptive analysis of the influences and impacts on Cairene courtyard houses took place. The analysis is envisaged within the terms of culture and cultural change. In order to physically trace this evolutionary process, a specific methodology was devised based on a typological analysis procedure. Eighteen house floor plans were selected from a wide variety of houses representing successive historic eras of different cultural milieus starting from 1700s and up to the 20th century. It is believed that this period has witnessed a significant cycle of change (Saadeddin, 1984). Within this methodology, the key elements were selected to illustrate their change and development. These are: the *courtyard*, *entrance (dihliz)*, *qa'a*, *takhtabush*, and *maka'ad*. The Cairene courtyard house was characterized by other important spaces such Haramlek (*Harim*),

however, the investigation here is limited to these spaces as core elements. Operational definitions of those elements selected for investigation are outlined in **Table 1**.

Findings resulted from this procedure were developed and centered around the definition of each element, and an examination of whether or not these elements have changed over time was conducted. A reading through the typology of the selected houses was employed to answer these two questions: Have these elements changed over time or disappeared? Do they have equivalents in contemporary houses? If so, what are the types, functions, and uses of these new equivalents? A conceptual vision on new methodological directions for the study of traditional houses is introduced as a prologue for the future.

CULTURE AND CULTURAL CHANGE: HISTORICAL ACCOUNT OF INFLUENCES AND IMPACTS ON CAIRENE COURTYARD HOUSES

Culture encompasses the sources and methods of obtaining knowledge and the manner of its storage, dissemination and utilization. It is the creative spirit of people made manifest (Haidar, 1980). Culture is what people uphold as essential, valuable and desirable, and how they go about making choices and transactions. It is an integrated pattern of human beliefs, customs, norms, morals and behaviors shared by a group, inhabitants of a region or a nation over a specific period of time (Salama, 1998; 1999).

There have been different views and assumptions on the changing concept of culture (Altman and Chemers, 1981; Lawrence, 1997; Salama, 1999). In general, culture is a complex concept that was commonly considered to be a static phenomenon that could inhibit change. Today, culture refers to a relativistic and multidimensional concept with its components, evolving, changing and developing over time (Lawrence, 1997). On the one hand, the consequences of this more complex and dynamic interpretation of culture ought to be recognized in contemporary methodological research, for a better understanding of the past change and development of the spatial environment of courtyard houses. On the other hand, this interpretation allows for a better prediction of the quality of future spatial environments.

The preceding interpretation suggests the co-existence of both cultural constants and variables. Constants can be exemplified by the links with the past—the traditions—as sources of legitimacy and inspiration of actions. Variables can be exemplified by the degree to which the society is capable of adopting and incorporating new phenomena into those traditions. Concomitantly, several theorists argue, and rightly so, that cultural change is a natural social incident that occurs on different rates; slow, gradual changes on the one hand allow adaptation and integration to happen in a smooth process of synthesis between the old and the new, while rapid, abrupt changes on the other hand result in confusion and inconsistency (Skelton and Allen, 1999). These processes mandate a conceptual analysis of influences and impacts on Cairene courtyard houses.

The present city of Cairo has historically evolved through a series of major political constructs. There are four main physical formations that constituted the city of Cairo, envisioned and initially carried out by great military political commanders of the empire builders; *Al-Fustat* (641), *AL-*

2. The literature dealing with Cairo in generic terms prior to the nineteenth century is significantly richer than that covering the modernization of the city. Few books cover both the old and new cities, and even fewer are oriented toward contemporary problems. One should note in the context of old literature the work of Andre Raymond: *Palais et Maisons du Caire Vol. 1: Epoque Mamelouke and Vol. 2: Epoque Ottomane*; Jacques Revault; *Palais et Demeures du Caire*, in three volumes.

Askar (751), *Al-Qatai* (870) and *Al-Qahira* – Cairo (969). These four settlements were later joined and fenced by Salah Eddin –the military commander- in 1187. Since then, old Cairo assumed its physical unity and functional integrity as one comprehensive entity. According to Saadeddin (1984), much of these developments reveal physical and cultural influences that occurred within the confines of this city of about 5 sq. km., an area that persisted for the three centuries of the Mamluk dynasty until the Ottoman conquest of Egypt in 1517, when Cairo lost its political eminence and entered into a decline phase that affected all walks of life (2).

By the end of the French occupation (1798-1801), a sense of national dismay with respect to ignorance, illiteracy and deterioration has emerged. Afterwards, *Mohamed Ali* (1806-1848) –the ruler of Egypt- started a new progressive era basing his ideologies on the westernization of Egypt. This new paradigm has resulted in several rapid changes, some of which were the extinction of the typical courtyard house type and the introduction of a new western model formulating a totally new residential concept that speedily became popular amongst the wealthy and the intellectuals finding it more convenient to their needs and the overall life style adopted (Abu-Lughod, 1973).

This transitional dynasty has caused a leap towards the western thought, thereby leading to the complete dependence on the western experience in all fields. Slow but confident changes took place in all walks of life until the reign of *Ismail Pacha* (1860s-1880s), the celebrity *khedive* whose project of *Paris of the East* has completely adopted the 19th century European model as a reference for inclusive development. Housing was one realm in which a new model has emerged, developed and continued until the traditional models have finally arrived at complete obscurity. By 1897, Cairo was split into two separate communities which when combined doubled the population.

Ismail's model dominated the opposing national movement in search for an Egyptian identity that was evoked by the 1919 revolution. Literature indicates that houses of this era either reflected the ideas of classical continuity and revival, or applied this comparable concept of re-introducing traditional architecture into Cairo (Behrens-Abouseif, 1989; Wright, 1991). The later went by two approaches; the first was Islamic style revival and the second was Ancient Egyptian style revival. Both approaches were faced with the lack of plan stereotypes in the style of older Cairene heritage for houses with new functions, there was no choice but applying decorative elements to the western house model introduced by *Ismail Pacha* as a mere surface veneer. Those diverse influences dominated the Cairene house model in the early 20th century, paving the way ahead for the introduction of modernism concepts in the architecture of Cairo. This resulted in the emergence of a new housing type that revealed the concepts of function, modularity and the international style based on the open plan concept and the avoidance of using ornaments while reducing detailing aspects to be minimal.

A sense of patriotism has emerged since the mid of the 20th century as a result of gaining independence. Adopting and adapting the *socialist* concepts of centralization, nationalization and targeting the newly emerged middle class sector of the society, the governing regime placed emphasis on co-operative and consortium housing projects. Further strategies were devised for economic and low cost housing for industrial

3. Shifting from socialist paradigm to openness policies in 1974 resulted in a sudden inflation, which extremely raised the land value. Accompanied by a parallel shift toward the western life-style, the courtyard house has completely disappeared from the housing arena, and the dominance of the apartment buildings took place all over the city of Cairo and its surroundings. Following was an economic reform era that started in 1981 and continued throughout the nineties to the present. With privatization policies being practiced, the re-birth of private houses was witnessed to spread all along the city suburbs and the new settlements, while ignoring the traditional courtyard type and any associated traditional elements, and willingly adopting global colonial house models.

workers for the hurriedly spread industrial units all around Cairo. Typical prototype blocks were scattered in the available unoccupied lands within and around the periphery of Cairo (3).

Linking the concepts of culture and cultural change to the influences and impacts on Cairene courtyard houses, it is believed that -all along its history- Cairo was exposed to a layer upon layer of imported cultures that have been localized over time and adapted to regional conditions and local taste (Abarkan and Salama, 2000; Alsayyad, 2001). When colonization arrived with *Ismail pasha* in the late 19th century, a whole new set of cultural imports was introduced, developing Cairo into a typical dualistic pattern of the colonial city with its new house types. Progressively, paradoxically, and according to the successive awkward cultural and political circumstances, a new avenue was opened for a process of continuous experimentation of ideas, resulting in a mix of hybrid-in many cases- ambiguous thoughts. This was followed by oversimplification of traditions and a complete loss of identity, and in turn, it was dramatically reflected on the evolution of different house types.

TYPOLOGICAL ANALYSIS OF CAIRENE COURTYARD HOUSES

Rethinking Typology

Typology is regarded as the “classification of models”. According to Petruccioli (1999), a type is the organic ensemble of the common characteristics of buildings in a defined culture over a specific period of time. Thus, typological process is conceived in the context of this discussion as a dynamic process that changes and develops according to evolutionary paradigms of a particular society and that cannot be restricted to one formal scheme. Concomitantly, typological analysis can be defined as a way to describe architecture in relation to its physical conditions by means of descriptive categories not dependent on “idealist” concepts of style and character. House spaces in general and those of courtyard houses in particular have formal constants that act as containers that reduce the complexity of architectural appearances in their most outstanding physical characteristics. In essence, typological analysis permits the examination—classification, recognition and description— of buildings of different historic eras in different cultures. In this respect, courtyard houses are a building type that can be regarded as a cultural production in which physical forms are developed. Thus, it is believed that the typological analysis adopted here may provide a rich database on Cairene courtyard houses, their forms and form-making processes, and the relationship between form and cultural shifts.

Methodology

In order to carry out the typological analysis of Cairene courtyard houses, a methodology was devised, in which 18 house floor plans were selected from a wide variety of houses presenting successive historic eras. These are the *Mamluk*, the *Ottoman*, the 19th and early 20th century, the mid century models and the present house types; illustrated in **Figure 6**. Four elements of the courtyard house components –in addition to the *courtyard* as a fundamental study element- were examined, these are: Entrance (*Dihliz*), *Takhtabush*, *Qa’a* and *Maka’ad*. The selection of these elements is based on the belief that they represent the key spaces of the Cairene courtyard house.

All of the floor plans were drawn to the same scale to allow for a valid comparative analysis. Each element was analytically defined, described, and then tracing its evolution within the defined historic eras took place. The intention was to examine whether or not an element has changed over time, and if so, does it have a equivalent, and if so, what is its type, function, and new use.

It should be noted that the investigation was limited to the period between the eighteenth century and twentieth century. This does not mean that there were not any physical changes in the structure and content of the Cairene courtyard house before the eighteenth century. The author however believes that significant changes and developments have occurred during the last three centuries. The selection of examples was based on the belief that they should cover the entire range of possible changes and developments. Also, three examples of houses designed by Hassan Fathy in the fifties have been intentionally selected in an attempt to illustrate the existence of "resistant architecture" that has rejected all the imported elements resulted from Westernization and European impacts. The following is an interpretation and preliminary observations, illustrated by six plates, each of which attempts to clarify the evolutionary aspects of each element.

ORIGIN AND EVOLUTION OF ELEMENTS OF CAIRENE HOUSES

The Courtyard

The courtyard is a square or rectangular open space, usually located in the heart of the house. The court performs an important function as a modifier for climate as well as for lighting purposes. The various daily activities are practiced and performed in the court especially in small houses. In some cases, the house has more than one court, where the major spaces open onto the large court and the service spaces open onto the smaller one. Originally in the courtyard house, a fountain was placed in the middle with the *iwanat* or living spaces opened onto it. After further developments of the Cairene house, the concept of the courtyard with several *iwanat* was transformed into the *qaa* concept, composed of a *durqaa*, which is a covered courtyard, with the *iwanat* leading to it. However, and in any arrangement, the fountain occupied a place in the center displaying its water and mixing it with air to increase humidity and soften the dryness.

During the Mamluk and Ottoman periods, the courtyard was a common feature in all traditional houses of the wealthy in Cairo, for both functional and climatic considerations as well as other socio-cultural aspects which created an introverted inner world for those secluded residents who rarely stepped outside of the house; women. This reinforces the claim that religious beliefs were important determining factors in formulating domestic spaces. The existence of the courtyard is also observed in the examples of the early nineteenth century. In Manzil El Leithy, it has been used as an open space for climatic and lighting purposes, but served more than one individual family where a number of housing units were grouped around the yard (**Figure 7**). The courtyard type continued along during the transitional period of the late 19th/early 20th centuries, and was witnessed in the early apartment buildings in the traditional districts of Cairo, Shubra, A'bdin, Helmia and others. It has played the role of directing circulation space leading to staircases of different wings of the buildings. This is due to the increasing population

Al Kritiliya House Mamluk (1700s)	Zeinab Khatoun House Mamluk (1700s)	Al Harrawi House Mamluk (1700s)	Gamal Eddin Al Zahabi House Ottoman (1800s)	El Leithy House (1800s)	Ismailian Style Late (1800s)
Ismailian Style Late (1800s)	Villa at Heliopolis Early 19th Century	Villa Khoury Late 1930s	Villa Hamada Early 1940s	Villa Moustafa Pacha Late 1940s	Villa by Hassan Fathy Mid 20th Century
Villa by Hassan Fathy Mid 20th Century	Villa by Hassan Fathy Mid 20th Century	Villa Nassif Late 1950s	Villa Sayed Karim Late 1950s	Villa at Awkaf City Early 1960s	Villa at Rehab City Late 1990s

Figure 6. The 18 houses selected to represent successive historic eras from *Mamluk* period up to the 1990s.

Al Kritiliya House Mamluk (1700s)	Zeinab Khatoun House Mamluk (1700s)	Al Harrawi House Mamluk (1700s)	Gamal Eddin Al Zahabi House Ottoman (1800s)	El Leithy House (1800s)	Ismailian Style Late (1800s)
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Figure 7. Transformations of the *courtyard* typology.

of Cairo and in part- the gradual importation of Mediterranean trends coupled with the emergence of the middle class. Eventually, the courtyard lost its environmental role, due to the raise in number of floors to four and more, an aspect that led to its complete disappearance shortly afterwards.

Regarding the example of the Ismailian period, that emphasizes the openness to Europe, one observes the transformation of the traditional courtyard into a hall for the purpose of receiving short-visit guests. At the same time, this hall stood in the crossroads, playing the role of a distributing point to the interior spaces of the house. In the example of Heliopolis, the hall was covered by a large dome to emphasize its location and function. Afterwards, a yard was introduced in the design of houses for recreational purposes, and was not necessarily occupying a central location within the house. Those yards were either in the front, back or to one side of the houses as shown in the three examples of the 20th century between 1930s to late 1940s. These developments can be referred to the settling of many European families in Cairo, bringing with them their lifestyles. Concomitantly they have designed houses to accommodate those styles, while at the same time conforming-in part-to the local taste. When looking at the houses designed by Hassan Fathy in the 1950s, the traditional courtyard was reintroduced and included in the houses in a way or another; either small to ventilate and light, or large to accommodate living and entertainment activities (**Figure 7**). One can interpret the houses of Fathy as a form of resistant architecture, which paralleled the independence of the country. However, these houses were again for the wealthy. Therefore, they, at that time, have not been advocated either by the architectural community or by decision makers.

By the middle of the 20th century and onwards, the hall continued to appear under the name of *Sala*. It acted mainly as this space in the crossroads, and sometimes enlarged recalling its function of the Ismailian period. Located in the front or to a side, it is not clear in the proposed examples when exactly was the introduction of the large terrace in the Egyptian house. However, it is worth mentioning that a large terrace was introduced as in the examples of Awkaf and new settlements, acting as a seasonal space, accommodating the same activities that used to take place in the courtyard.

Entrance (*Dihliz*)

Entrances in most of the Cairene traditional houses were bent. The idea of using bent entrances was to provide privacy for the house residents, preventing the street pedestrians from seeing the inside of the house. Another function of the bent entrance was to protect the interior of the house from wind, dust and noise. In all houses with varied surface areas, entrances were bent to right angles perpendicular on the street not leading directly to the court. Attached to the entrance was a doorway that confirms the separation of the peaceful interior from the harshness of the outside/ exterior. In addition to considering climatic aspects and separation needs, bending the entrance reveals the conservative behavioral pattern of the time where street pedestrians cannot see the inside of the house in order to achieve a high degree of privacy. In the nineteenth century, as exemplified in Manzil El-Leithy, behavioral norms accepted the exposure of some activities of the courtyard for the visitors and frequent knockers –mostly salesman-. Yet, the *maggaz* still existed as an obligatory pause required by the conservative residents.

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Figure 8. Transformations of the *dihliz* typology.

Al Kritiliya House Mamluk (1700s)	Zeinab Khatoun House Mamluk (1700s)	Al Harrawi House Mamluk (1700s)	Gamal Eddin Al Zahabi House Ottoman (1800s)	El Leithy House (1800s)	Ismailian Style Late (1800s)
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Figure 9. Transformations of the *takhtabush* typology.

During the Ismailian period, one observes the drift towards ignoring traditional behavioral aspects as well as architectural prototypes and the entire local life styles. In this model, entrances were followed by a lobby or a doorway then a hall for the purpose of the partitioning of spaces. In spite of the diversity of architectural styles, the example of Heliopolis is another articulation of this model. This particular entrance model continued on along with the arrival of modernity to Cairo since the late thirties of the twentieth century (**Figure 8**).

As exemplified in the villas of the thirties, forties and fifties, the entrance was always emphasized by an attached lobby or a hall, standing out in the plans as this *pause* prior to the accessibility to the interior spaces. The mid of the twentieth century witnessed the attempts of Hassan Fathy to revitalize the functional, behavioral and aesthetic patterns of traditional architecture and once again, the bent entrance with the *maggaz* were re-introduced. In his works, Fathy's locations of the entrances are always remarkable in the middle of the plans, separating the public from the semi-private zones of the house (**Figure 7, 8**). Afterwards, entrances served as welcoming gates to the multifunctional spaces that they open to.

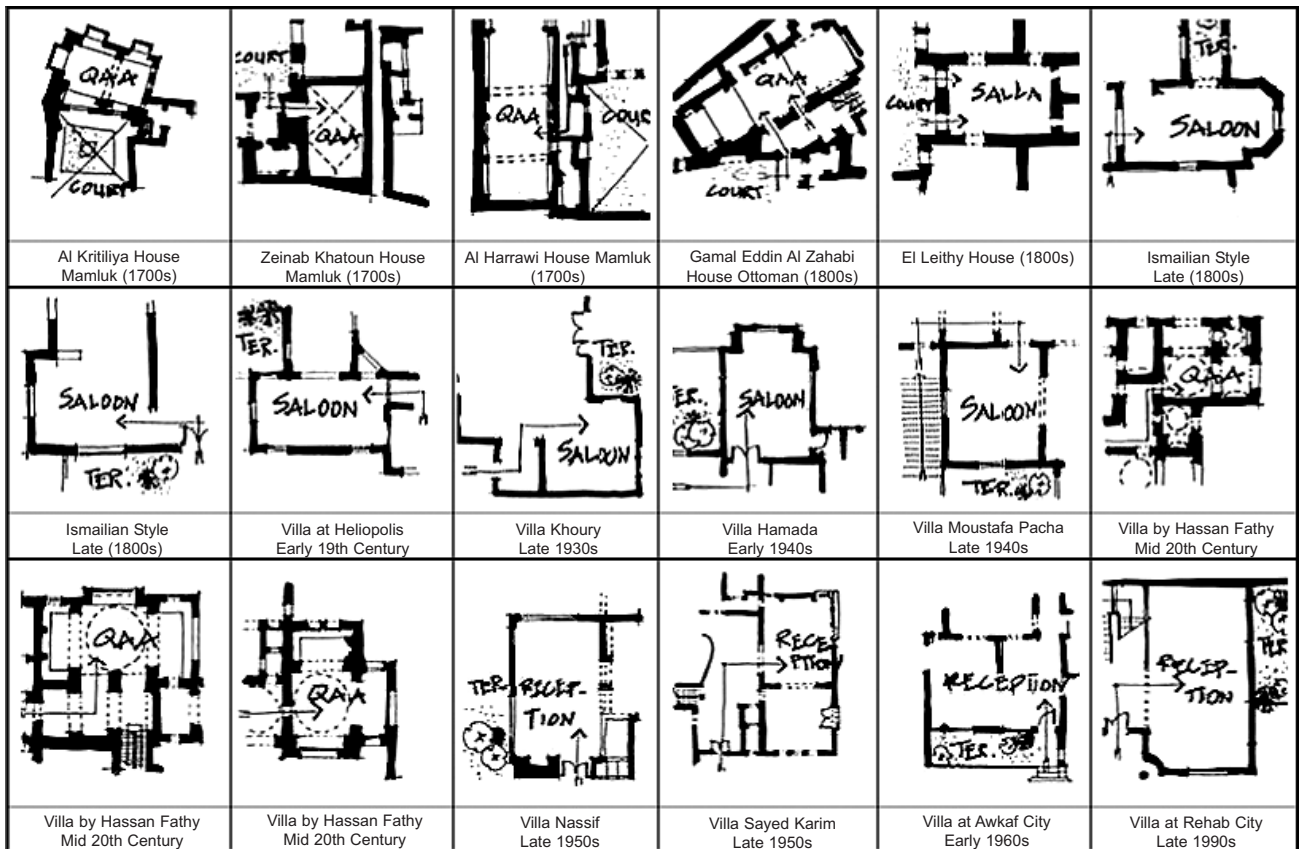
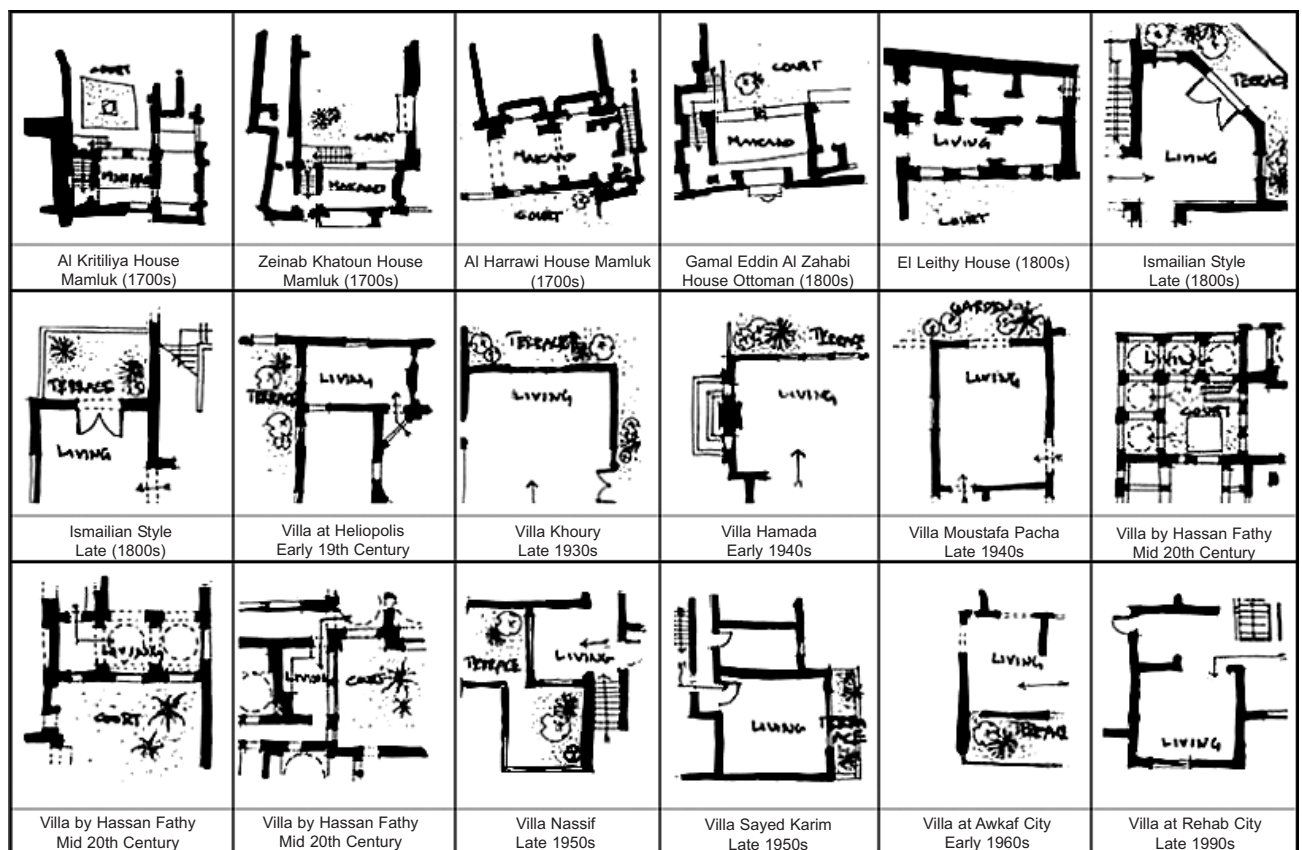
In the examples of the fifties and sixties, entrances are observed to open directly to *salons* or *reception* spaces, reflecting the change of social values in the Cairene society from conservatism to openness. The selected example of the late twentieth century reveals the emphasis of the entrance with respect to size and location, reflecting the nostalgia towards the classical prototypes in terms of lifestyles of people and physical characteristics of the house as well.

Takhtabush

A type of loggia –a covered outdoor sitting area- at the ground floor level, located between the courtyard and the back garden, opening completely onto the courtyard with a *mashrabiya* onto the back garden. One should note in this context the back gardens were common in most large courtyard houses. The *takhtabush* is generally rectangular or squarish in shape acting as a waiting area.

Understanding the values and attitudes of Cairene society that pertain to hospitality and generosity, explains the introduction of this space in the houses of the wealthy, where guests were always considered in the designation of spaces. The *takhtabush* played another role in dealing with climatic factors since it allowed for air circulation via its *mashrabiya* from the courtyard to the back garden. Analyzing the proposed examples reveals the importance of celebrating the guests in this particular space that occupied the most prestigious locations of all houses. Reviewing the examples of the traditional courtyard houses together with those of the early nineteenth century, one observes the location of the *takhtabush* open to the courtyard and directly accessible from the main entrance in a location that doesn't allow the exposure of the private spaces to the guests (**Figure 9**).

From the Ismailian period and afterwards, the name of the *takhtabush* changed into *entree*. Despite this change of name, this space always occupied the closest space to the entrance, separated from the rest of spaces. In some houses it had a separate secondary entrance. As social values of privacy changed over time, the *entree* moved from its original location towards the inside of the house. This feature can be observed in the examples of the thirties, forties and fifties. In the works of Hassan

Figure 10. Transformations of the *qa'a* typology.Figure 11. Transformations of the *maka'ad* typology.

Fathy, the *takhtabush* was reintroduced, either as an independent space or contained in the *qaa* space. In the examples of the middle of the century, it is observed that the *entrée* has merged in the open reception area of the house with no clear physical boundaries, yet still keeping its name. The example of the house of the nineties of the 20th. century exemplifies the reintroduction of the guests area in a large prestigious open space that is the *reception*.

Qa'a

It is a reception space overlooking the courtyard and composed of three or more open spaces. The *qa'a* includes a *durqa'a*, which –typically- is surrounded by two iwans facing each other with a central fountain in the middle of this *durqa'a*. The floor level of the two *iwans* is higher than that of the *durqa'a*. In some cases, the *durqa'a* is surrounded by three *iwans*, forming a T-shape. Some courtyard houses included more than one *qaa* and extra reception spaces for women.

In the examples surveyed, the *qa'a* proves to be the eye-catcher of most of the floor plans, with emphasis on its size, interior organization or division into sub-spaces to accommodate diverse activities within the same large space. Always located by means of easy access from the entrance and close enough to the service zone. Tracing the examples of the early nineteenth century, the luxurious divided *qa'a* shrank into a prestigious hall for guests designated for living and dining activities (Figure 10).

Starting from the Ismailian period and onwards, the *qa'a* no longer existed, but transformed into several divided spaces accommodating activities of receiving guests (*salon*), dining and living, until the introduction of the open plan by the modern movement where one large space is left free to accommodate those activities. This clearly explains the impact of Westernization from the Ismailian period by openness to Europe up to the mid-20th century through importing modern movement trends by the Egyptian scholars who studied architecture in Europe. In Hassan Fathy's attempts of revitalizing the concepts and elements of Islamic architecture, the *qa'a* with its sub-divisions of *durqa'a* and iwans was once again the eye-catcher of the floor plans. In the examples of the mid twentieth century and afterwards, one observes that the *qa'a* never existed again (Figure 10). Additionally, it is obvious that the dining space was always somehow separated from the rest of the spaces, and always close to the service zone of the kitchen and toilets. It can be argued here that this change took place for functional reasons, and not only related to cultural purposes.

Maka'ad

A square or rectangular shaped covered loggia, opened with its entire façade onto the court, essentially oriented to the north in grasp of the soft breeze. The *maka'ad* is commonly located in the first floor, directly accessible from the court via a staircase and a corridor, and usually connected to a reception space or a sleeping zone, acting as a family area for the master of the family, children and relatives and barely for women.

If the *qaa* was the eye catcher of courtyard houses, no doubt, the *maka'ad* was at the heart. Although not as huge in size as the *qa'a*, the *maka'ad* (family living afterwards) was compensated by the perfect choice of its location, as it accommodates the daily life activities of the family. The *maka'ad* of the courtyard traditional houses proved to be intimate in scale, compared to other spaces. It is used to welcome male members of

the family and their close relatives or friends. Since the beginning of the 19th century, and the associated changes in the entire traditional architectural and behavioral patterns starting from the era of Mohamed Ali, the name of *maka'ad* was changed into living or *maeisha*, or sometimes referred to as seating area (**Figure 11**). This semi private space of family living continued along the 19th century and the first half of the 20th century, as exemplified in the examples of the Ismailian period, Heliopolis and the thirties and forties (**Figure 6, 11**). Arguably, it can be stated that functional aspects of family living has not changed significantly over these periods, but elements have changed in terms of location and size though.

Until the middle of the 20th century where the houses were very limited in surface area and the social model of the time accepted the idea that the living as a setting was in a way or another organized and included in the open space referred to as *reception* as shown in the examples of the mid 20th century. By the end of the 20th century the living space appeared once again as the heart of the house, positioned in the best location among other spaces of the house, standing out to be the semiprivate -semipublic zone of the house.

DISCUSSION: CONTEMPORARY REACTIONS AND FUTURE DIRECTIONS

This paper has attempted to utilize an integrative approach to the study of Cairene courtyard houses by exploring the evolutionary paradigms within the concepts of culture and cultural change. Due to the paradigm shifts and for several socio-political and socio-economic reasons drastic changes in conceiving the house and the housing process occurred. As De Bono (1991) argues that a paradigm changes in thought, then eventually causes a change in the attitudes and the actions toward approaching problems, the case is different in the evolution of Cairene courtyard houses, especially with the associated development gap between the Cairene society and its European counterpart. Consequently, the Western model has continued for two centuries to be an important exemplar to follow as a mean of development. However, one could argue that cultural transformations in Cairene society and the associated political and socio-economic interests can be interpreted through the investigation of cultural processes that are seen according to Rapoport (1983) as abstract and universally valid phenomena.

The ultimate reliance during Mohamed Ali period on the Western experience in all fields including housing, and the use of the banner "*Paris of the East*" as reference of development during the Ismailian period have impacted the house typology. Further evolutions occurred in the first half of the 20th century and the impact was doubled with the introduction of modernism. When the social rule took place by the fifties dramatic changes in the housing of the poorer sectors of Cairene society occurred where low income and public housing projects became the general case taking the socialist concepts as references. Since the 1950s, many housing attempts have been practiced based on political and economic orientations, whether adopting the socialist approach as from the 1950s to mid 1980s or the capitalist approach as from late 1980s to the present. With these developments traditional courtyards and their elements were forgotten and have been replaced by other elements derived from European Mediterranean countries.

Now, three major transformations influence Cairo. These are: population growth and rapid urbanization, the rising demand for cheap houses and the emergence of squatter settlements. The accelerated growth and the rural immigrants living in squatters around Cairo's urban periphery have attracted substantial political attention at the expense of other critical issues that pertain to improving the quality of existing houses and benefiting from tradition while conceiving future residential environments. The last three decades or more have witnessed fully subsidized mass housing projects that attempted to bridge the gap between supply and demand in a quantitative manner, and thereby creating houses ill-suited to culture and climate.

While academics and practitioners voice the opinion that traditional elements of Cairene courtyard houses should be retrieved innovatively in new housing projects the dominant approach was to consistently emphasize predetermined house standards built as cheaply as possible for lower income households. With this approach social and cultural values are disregarded and the house as concept was governed by economic norms only. Recently, emphasis is placed by decision makers on the value of adapting traditional elements of Cairene Courtyard houses and incorporating them into new projects. However, this has not gone beyond political discussions and economic aspects continued to be important determining factors governing the production of houses.

An important assertion can be made within the context of this discussion; that is the continuous need for architects to understand the impact of cultural processes that influenced the transformation of traditional houses on the macro and micro scales. Aspects that pertain to urbanization, migration, westernization, and modernization represent impacts of cultural changes (Rapoport, 1983 and Orhan and Işıl Hacıhasanoğlu, 1997). Modernization and development must be considered as forms of cultural change and need to be investigated and carefully studied rather than automatically accepted. Westernization which is an impact of an acculturation process in Cairene society is a good example of this type of automatic acceptance. The examination of different physical elements of Cairene houses and their spatial transformations need to be seen from the perspective of cultural changes and as a result of cultural processes.

The typological analysis procedure adopted here revealed a continuous process of evolution of Cairene courtyard houses. The latest developments illustrate that the concept of the house as whole has changed from a socially and culturally-dependent phenomenon to that of economically and politically dependent. It should be noted that the typological analysis is used primarily to highlight the impact of cultural change on the evolution of Cairene courtyard houses. Thus, this methodology has limitations since it only answers the "What" of evolution and change and the forms of evolution. Still, it does not clearly indicate when change occurs and how and why it takes place. In order to complement the typological analysis procedure, one can introduce concept of "Dialectics" in order to further understand the spatial transformation of traditional houses. Dialectics represent a world view or a set of assumption that need to be investigated. They relate to social and cultural changes and the resulting spatial transformations; these can be in the form of relationships between other underlying concepts such as individuality and communality; and public and private. However, such dialectics need supporting tools that go beyond the typological analysis. Therefore, it is

suggested that two other concepts should be introduced for investigating the questions of “When”, “How”, and “Why” of evolution. These concepts are the “pattern language” and “behavioral setting” as research paradigms rather than design approaches. In this context, the pattern language can be regarded as a process of looking at the house elements as words, that form a vocabulary of a language that has a cohesive grammar. Thus, the study of patterns can provide a basis for comparing the houses built at different times thereby the reason for the existence of certain patterns and the meanings possibly associated with them can be revealed. The behavioral setting concept can be utilized as a research paradigm conceived as a process of systematic observation of what people actually do in a particular pattern in a particular time with emphasis placed on the way in which people behavior in space influences and is influenced by its physical characteristics.

It is believed that integrating pattern language and behavioral setting concepts into the study of house typology, forming a more comprehensive methodology can provide insights into a deeper understanding and interpretation of the interactive relationship between the evolutionary process and the house environment. By utilizing the three concepts “type, pattern and setting” in this methodology new arguments on the relationship between the house as a whole, and its underlying elements can be developed and future visions of the evolutionary process can be envisaged.

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TİPOLOJİK BİR OKUMA: KÜLTÜREL PARADİGMA KAYMALARININ KAHİRE AVLULU EVLERİNİN DÖNÜŞÜMÜNE ETKİSİ

Geleneksel Kahire evleri oldukça çok araştırılmış bir konudur. Bu çalışmalarda genellikle vurgu mimari üslup tartışmalarına ve kültürel açıdan otantikliğe ayrılmıştır; konutun ana mekanlarındaki sürekli dönüşümün işlevsel ve sosyo-mekansal nedenlerine ise çok az değinilmiştir. Bu yazı, Kahire'deki geleneksel avlulu evlerin evrim sürecine daha yakından bakmakta, onların ana mekanlarının form değişikliklerini ve bu değişim sürecinin Mısır'ın ve onun başkenti Kahire'nin üç yüzyıl boyunca geçirdiği kültürel paradigma kaymalarıyla ilişkisini anlamaya ve açıklamaya çalışmaktadır.

Bu evrim sürecinin yer aldığı bağlamı daha iyi anlama çabası, yazarı Kahire'deki avlulu evler üzerindeki etki ve müdahaleleri betimleyen bir

özümleme alışmasına zorlamıştır. özümleme, kültür ve kültürel deęişim anahtar sözcüklerine odaklanmıştır.

Bu evrim sürecini fiziksel olarak izleyebilmek amacıyla, tipolojik bir özümleme işleyimi benimsenmiştir. On sekizinci yüzyıldan yirminci yüzyıla kadar geniş bir zaman aralığından, birbirini izleyen ancak farklılaşan kültür ortamlarını temsil eden onsekiz konut planı seçilmiştir. Bu yöntem kapsamında, konutun geçirdiğı deęişimi ve gelişmeyi resmeden anahtar yapı öğelerine karar verilmiştir. Bunlar ‘avlu’, planda kırılarak gelişen ‘giriş’ ya da ‘dehliz’ (*dihliz*), genellikle eyvanlara açılan ve zemin katta bulunan kabul odası (*qa’a*), ki daha sonra adı antre olmuştur, yine zemin katta bulunan açık havada oturma mekanı olan ve avlu ile arka bahçeyi birleştiren ‘tahtaboş’ (*takhtabush*) ve birinci katta avluya bakan ve havalandırma amaçlı bir tür ‘balkon’ (*maka’ad*) olarak belirlenmiştir. Bu özümlemenin sonucu olan bulgular, her yapı öğesinin tanımı ve zaman içinde geçirdiğı dönüşüm açısından değerlendirilmiştir. Seçilen ev tiplerinin tipolojik ‘okuma’sı, şu iki sorunun yanıtlanmasında kullanılmıştır: Bu yapı öğeleri deęişmiş midir; kaybolan ya da çağdaş konutlarda eşdeğerleri bulunan öğeler var mıdır? Eğer varsa, bu eşdeğer öğelerin çeşitleri, işlevleri ve kullanımları nelerdir? Geleneksel evlerin verdiği bu sonuçlar üzerinden, geleceğin araştırmalarına ışık tutacak kimi kavramsal ve yöntemsel çıkarımlar yapılmaktadır.